

First Named Inventor: Victor B. Sapozhnikov

Application No.: 09/619,738

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AMENDMENTS TO THE CLAIMS

Please amend claims 21, 26, 27, and 35, such that the status of the claims is as follows:

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1-20. (Previously canceled)

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21. (Amended) A thin film structure having lateral composition modulations, ~~the thin film structure being formed of at least two components, each of which was simultaneously deposited from a different direction at a different deposition angle, each deposition angle being measured with respect to a vertical line substantially normal to a plane of the thin film structure,~~ the thin film structure comprising:

a substrate and at least two components, each component having been simultaneously deposited from a different direction at a different deposition angle, each deposition angle being measured with respect to a vertical line substantially normal to a plane of the thin film structure;

an uneven growing film topography comprising at least two surfaces, each of which is oriented to collect more of one of the at least two components than the remaining components during simultaneous deposition of the at least two components; and

a plurality of layers deposited upon the growing film topography, each of the plurality of layers having a ballistic separation of the at least two components.

22. (Previously added) The thin film structure of claim 21 wherein each deposition angle is in a range of about 60° to about 90°.

23. (Previously added) The thin film structure of claim 21 wherein each deposition angle is in a range of about 75° to about 90°.

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24. (Previously added) The thin film structure of claim 21 wherein each of the at least two components was deposited at substantially similar deposition rates.

25. (Previously added) The thin film structure of claim 21 wherein each of the at least two components was deposited at differing deposition rates.

26. (Amended) The thin film structure of claim 21 wherein angles formed between the deposition angles of pairs of the at least two components are in a range of about 90° to about 180°.

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27. (Amended) A thin film structure having lateral composition modulations, ~~the thin film structure being formed of a first component and a second component, the first component being deposited from a first direction at a first deposition angle and the second component being deposited from a second direction different than the first direction at a second deposition angle different than the first deposition angle, the first and second deposition angles being measured with respect to a vertical line perpendicular to a plane of the thin film structure; the thin film structure comprising:~~

a substrate, a first component, and a second component, the first component having been deposited from a first direction at a first deposition angle and the second component having been deposited from a second direction different than the first direction at a second deposition angle different than the first deposition angle, the first and second deposition angles being measured with respect to a vertical line perpendicular to a plane of the thin film structure;

an uneven growing film topography comprising a first surface and a second surface, the first surface being oriented to collect more atoms of the first component than the second component during simultaneous deposition of the first and second components and the second surface being oriented to collect more atoms of the second component than the first component during simultaneous deposition of the first and second components; and

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a plurality of layers deposited upon the growing film topography, each of the plurality of layers having a ballistic separation of the first and second components.

28.(Previously added) The thin film structure of claim 27 wherein the first deposition angle is in a range of about 60° to about 90° and the second deposition angle is in a range of about -60° to about -90°.

29.(Previously added) The thin film structure of claim 27 wherein the first deposition angle is in a range of about 75° to about 90° and the second deposition angle is in a range of about -75° to about -90°.

30.(Previously added) The thin film structure of claim 27 wherein a deposition rate of the first component is substantially equal to a deposition rate of the second component.

31.(Previously added) The thin film structure of claim 27 wherein a deposition rate of the first component does not equal a deposition rate of the second component.

32.(Previously added) The thin film structure of claim 27 wherein an angle formed between the first and second deposition angles is in a range of about 120° to about 180°.

33.(Previously added) The thin film structure of claim 27 wherein the modulations in the lateral composition of the thin film structure is periodic.

34.(Previously added) The thin film structure of claim 27 wherein the first direction is substantially opposite the second direction.

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~~35. (Amended) An anisotropic thin film structure having lateral composition modulations, the thin film structure being formed of a first component and a second component, the first component being deposited from a first direction at a first deposition angle and the second component being deposited from a second direction substantially opposite the first direction at a second deposition angle different than the first deposition angle, the first and second deposition directions being measured with respect to a vertical line perpendicular to a plane of the thin film structure, the thin film structure comprising:~~

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~~a substrate, a first component, and a second component, the first component having been deposited from a first direction at a first deposition angle and the second component having been deposited from a second direction substantially opposite the first direction at a second deposition angle different than the first deposition angle, the first and second deposition directions being measured with respect to a vertical line perpendicular to a plane of the thin film structure, the thin film structure;~~

~~an uneven growing film topography comprising a first surface and a second surface, the first surface being oriented to collect more atoms of the first component than the second component during simultaneous deposition of the first and second components and the second surface being oriented to collect more atoms of the second component than the first component during simultaneous deposition of the first and second components; and~~

~~a plurality of layers deposited upon the growing film topography, each of the plurality of layers having a ballistic separation of the first and second components.~~

36.(Previously added) The anisotropic thin film structure of claim 35 wherein the first deposition angle is in a range of about 60° to about 90° and the second deposition angle is in a range of about -60° to about -90°.

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37.(Previously added) The anisotropic thin film structure of claim 35 wherein the first deposition angle is in a range of about 75° to about 90° and the second deposition angle is in a range of about -75° to about -90° .

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38.(Previously added) The anisotropic thin film structure of claim 35 wherein a deposition rate of the first component is substantially equal to a deposition rate of the second component.

39.(Previously added) The anisotropic thin film structure of claim 35 wherein a deposition rate of the first component does not equal a deposition rate of the second component.

40.(Previously added) The anisotropic thin film structure of claim 35 wherein the modulations in the lateral composition of the thin film structure is periodic.